Schlumberger

Company: **ESSO Australia Pty. Ltd.**

Well: **BMA A10A**
Field: **Bream A**
Rig: **ISDL 453** State: **Victoria**

Rig: ISDL 453
Field: Bream A
Location: Bass Strait
Well: BMA A10A
Company: ESSO Australia Pty. Ltd.

Gamma Ray Service
1:200 True Vertical Depth
Real Time Log

Location

Total depth:	3381.0 m
Spud date:	03−May−2005
Runs:	1 To 2

Elevation

K.B.	Top Drive
G.L.	−59.40 m
D.F.	32.82 m

Permanent datum: Mean Sea Level Elev.: 0 m
Log measured from: Drill Floor 32.82 m above Perm. datum
Depth reference: Driller's Depth

API serial no.
Y = 5738460.34
X = 567336.31
Longitude E147° 46' 19.976" Latitude S38° 29' 58.824"

Depth logged: 2258.2 m To 3363.1 m
Date logged: 5−May−05 To 13−May−05
Mag decl: 13.09°
Mag dip: −69.03°
Other services: Directional Drilling, D&I

Bore hole record

Hole size	from	to
8 1/2 in.	2258.2 m	3381.0 m

Casing record

Size	Density	from	to
9 5/8 in.	40.0 lb/ft	Surface	2258.2 m

Mud record

Type	from	to
KCl/PHPA/Glycol	2258.2 m	3381.0 m

Borehole deviation record

Min	Max	from	to
22.81°	47.28°	2258.2 m	3381.0 m

Surface equipment

Unit	OLU−FB−924
Depth system	DES−CA−ASQ04−0

Software record

IDEAL Wis	ID9_1C_02		
SPM	HSPM9_2C_08		
LWD	N/A		
MWD	V8.0 B96		

OTHER SERVICES FOR RUN

OTHER SERVICES FOR RUN2
Directional Drilling
Directional Surveys

OTHER SERVICES FOR RUN1
Directional Drilling
Directional Surveys

REMARKS: RUN NUMBER

REMARKS: RUN NUMBER 2
8−1/2 in. hole was drilled from 2751.0 m to 3381.0 m MD.

Depth is referenced to Driller's Depth.

Gamma Ray corrected for Tool Size, Bit Size and Mud Weight

Mud Type is KCl/PHPA/Glycol.

POOH due to TD of BMA A10A.

REMARKS: RUN NUMBER 1
8−1/2 in. hole was drilled from 2270.5 m to 2751.0 m MD.

Milling run 2258.2 to 2270.5 m MD. Directional Data only.

Depth is referenced to Driller's Depth.

Gamma Ray corrected for Tool Size, Bit Size and Mud Weight

Mud Type is KCl/PHPA/Glycol.

POOH due to bit change.

Thank You for Choosing Schlumberger

Thank You for Choosing Schlumberger

EQUIPMENT DESCRIPTION

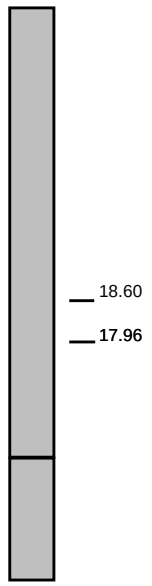
RUN1

RUN2

RUN

DOWNHOLE EQUIPMENT

DOWNHOLE EQUIPMENT



22.89

6−3/4 in. PowerPulse*
MDC: Z408
MEC: 1540
MDI: 1556
MGR: 146AA
DHS: V8.0B96

14.45

6−5/8 in. NM Pony
S/N: ANA98−007

11.81

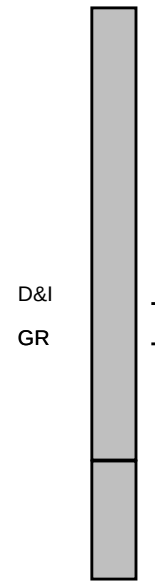
6−1/2 in. Float Sub
S/N: ASQ050427

11.18

8−3/8 in. NM Roller Reamer
S/N: GU2317R

9.19

7 in. PowerPak* Motor
A700GT 7:8
S/N: N7310
1.5 deg. Bent Housing
8−3/8 in. Motor Sleeve



22.88

6−3/4 in. PowerPulse*
MDC: Y927
MEC: 1533
MDI: 1565
MGR: 565−AA
DHS: V8.0B96

14.46

6−5/8 in. NM Pony
S/N: ANA98−007

11.82

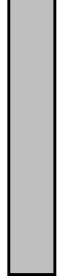
6−1/2 in. Float Sub
S/N: ASQ050427

11.19

8−3/8 in. NM Roller Reamer
S/N: GU2317R

9.20

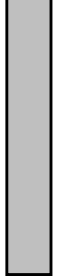
7 in. PowerPak* Motor
A700GT 7:8
S/N: N7311
1.59 deg. Bent Housing
8−3/8 in. Motor Sleeve



0.00 0.22

Smith PDC Bit
OD: 8−1/2 in.
S73PX S/N: JT6968

Maximum string diameter 8.50 in.
All lengths in Meters



0.00 0.22

Hycalog PDC Bit
OD: 8−1/2 in.
RSX163 S/N: 209694

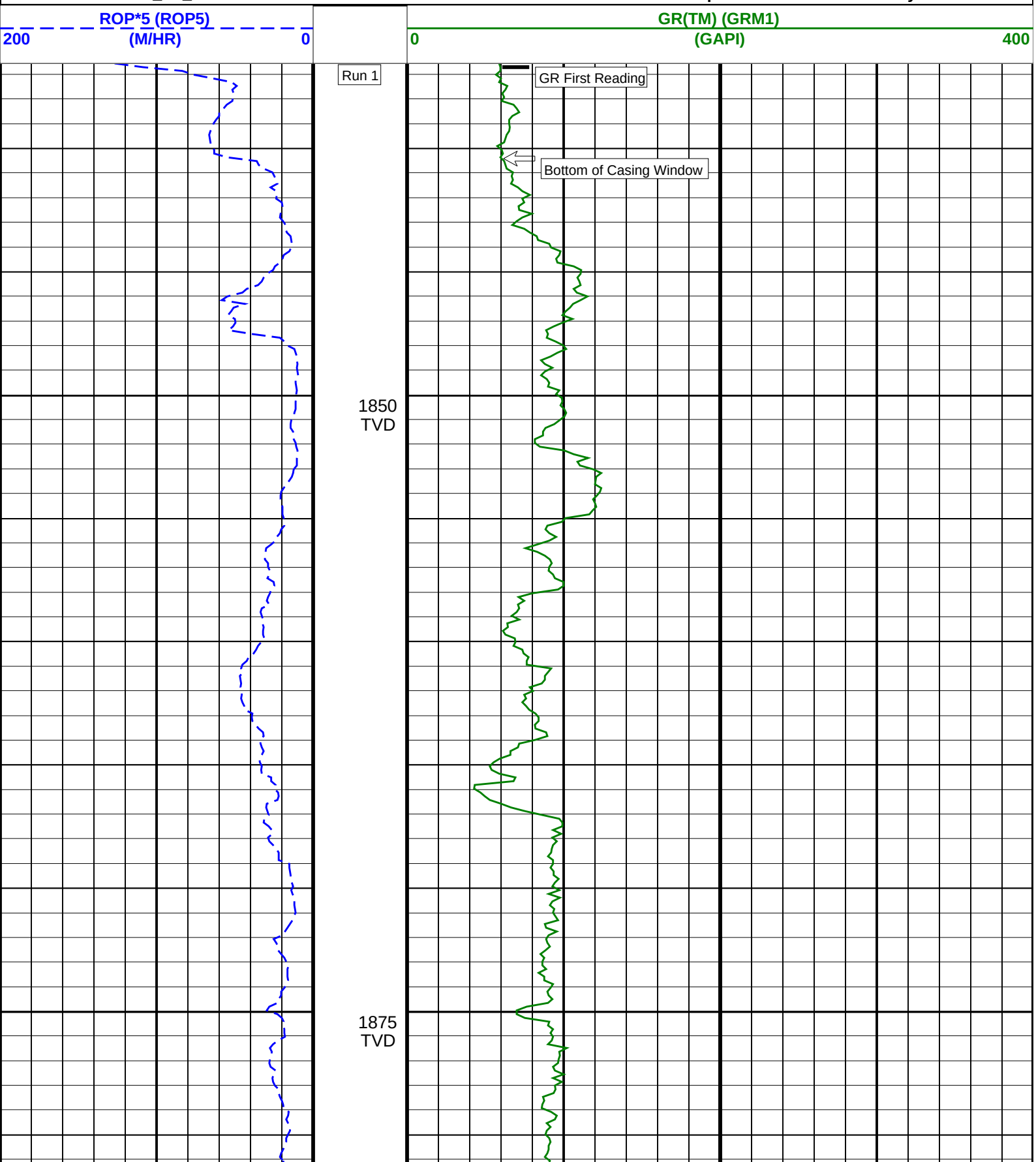
Maximum string diameter 8.50 in.
All lengths in Meters

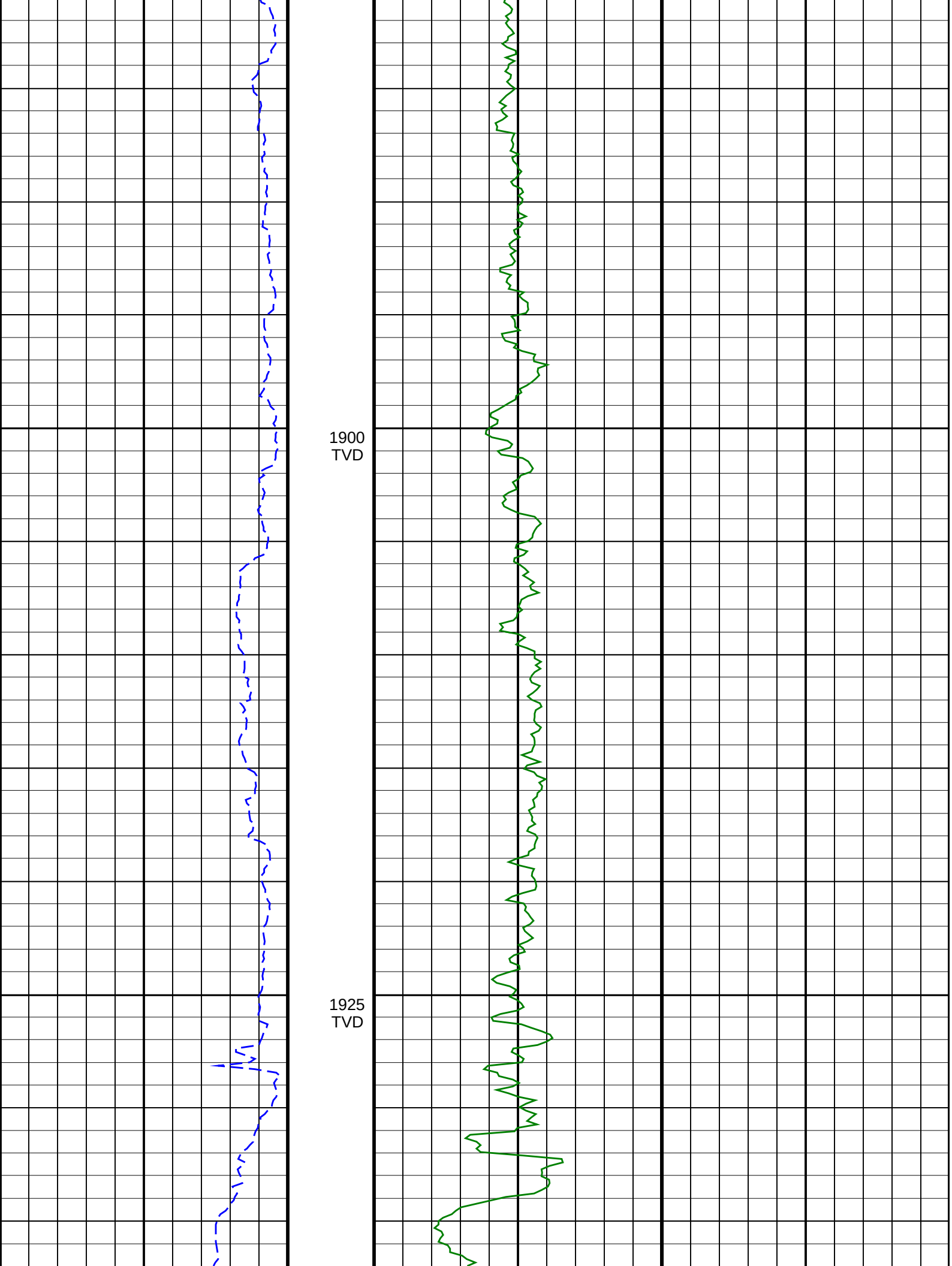
Bit Run Summary

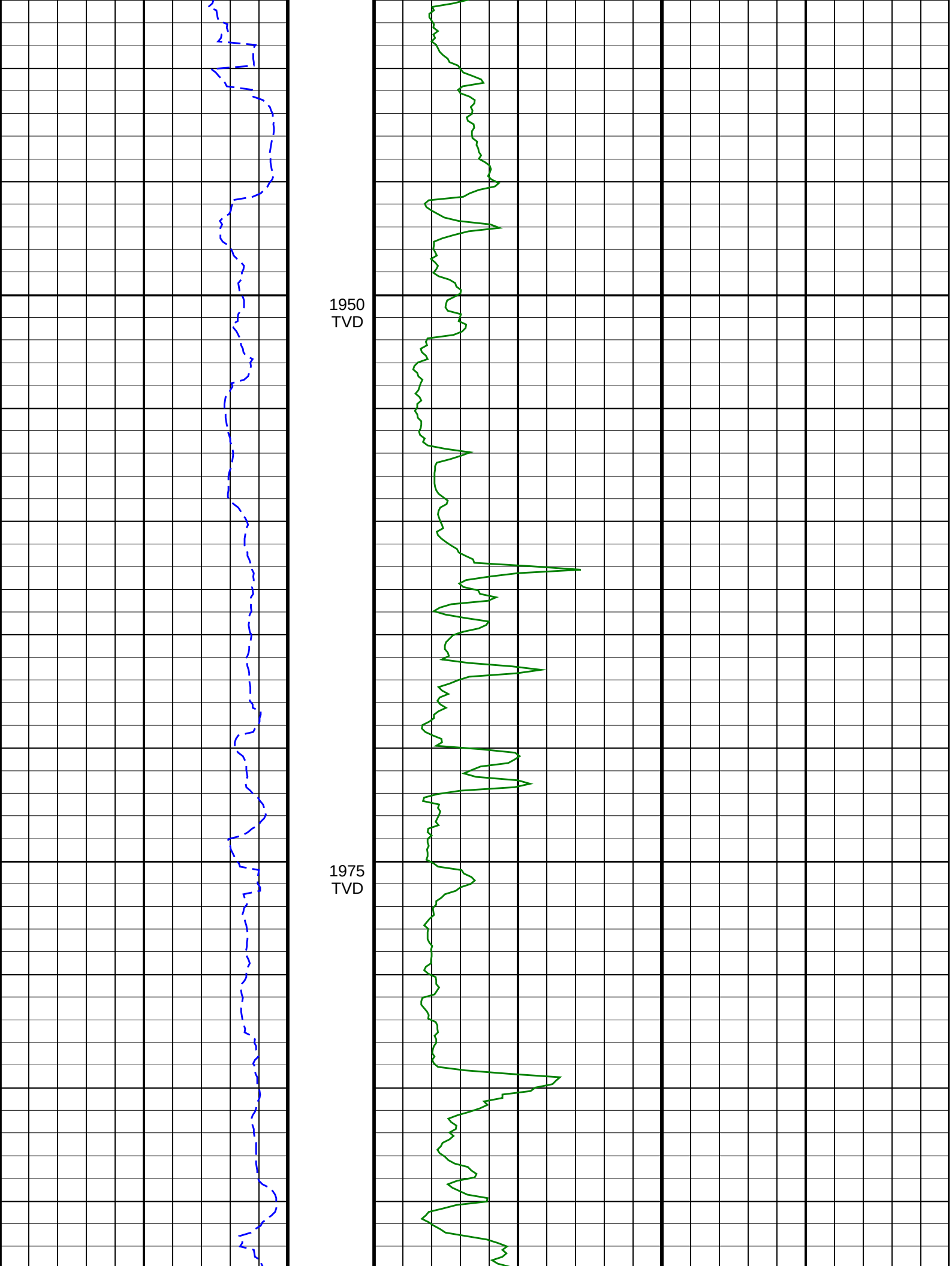
Run number		1	2								
Bit size	in.	8.5	8.5								
Bit start depth	m	2258.2	2751.0								
Bit end depth	m	2751.0	3381.0								
Top interval logged	m	2258.2	2733.04								
Bottom interval logged	m	2733.0	3363.1								
Begin log: time		22:30	13:10								
Begin log: date		5−May−05	9−May−05								
End log: time		16:45	3:30								
End log: date		8−May−05	13−May−05								
Mud data											
Depth	m	2738.0	3362.0								
Type		KCl/PHPA/Gly.	KCl/PHPA/Gly.								
Mud weight	ppg	10.00	10.10								
Solids	%	7.7	8.8								
Chlorides	mg/L	41,800	40,000								
Rm		N/A	N/A								
Rmf		N/A	N/A								
Rmc		N/A	N/A								
Potassium	%	4.2	4.2								
Environmental data											
GR											
Mud weight	ppg	10.00	10.10								
Bit size	in.	8.5	8.5								
Resistivity											
Neutron porosity											
Hole Size											
Mud weight											
Temperature											
Mud salinity											
Formation salinity											
Recording rate 1	SEC	4.19	4.19								
Recording rate 2	SEC	N/A	N/A								
Filtering GR		3 pt.	3 pt.								
Filtering density		N/A	N/A								
Filtering Neutron		N/A	N/A								
Company representative		W. Westman	J. MacKinnon	G. Campbell	B. Davis						
Anadrill personnel		D. Hastie	L. Johnston	C. Cocks	D. Hay						

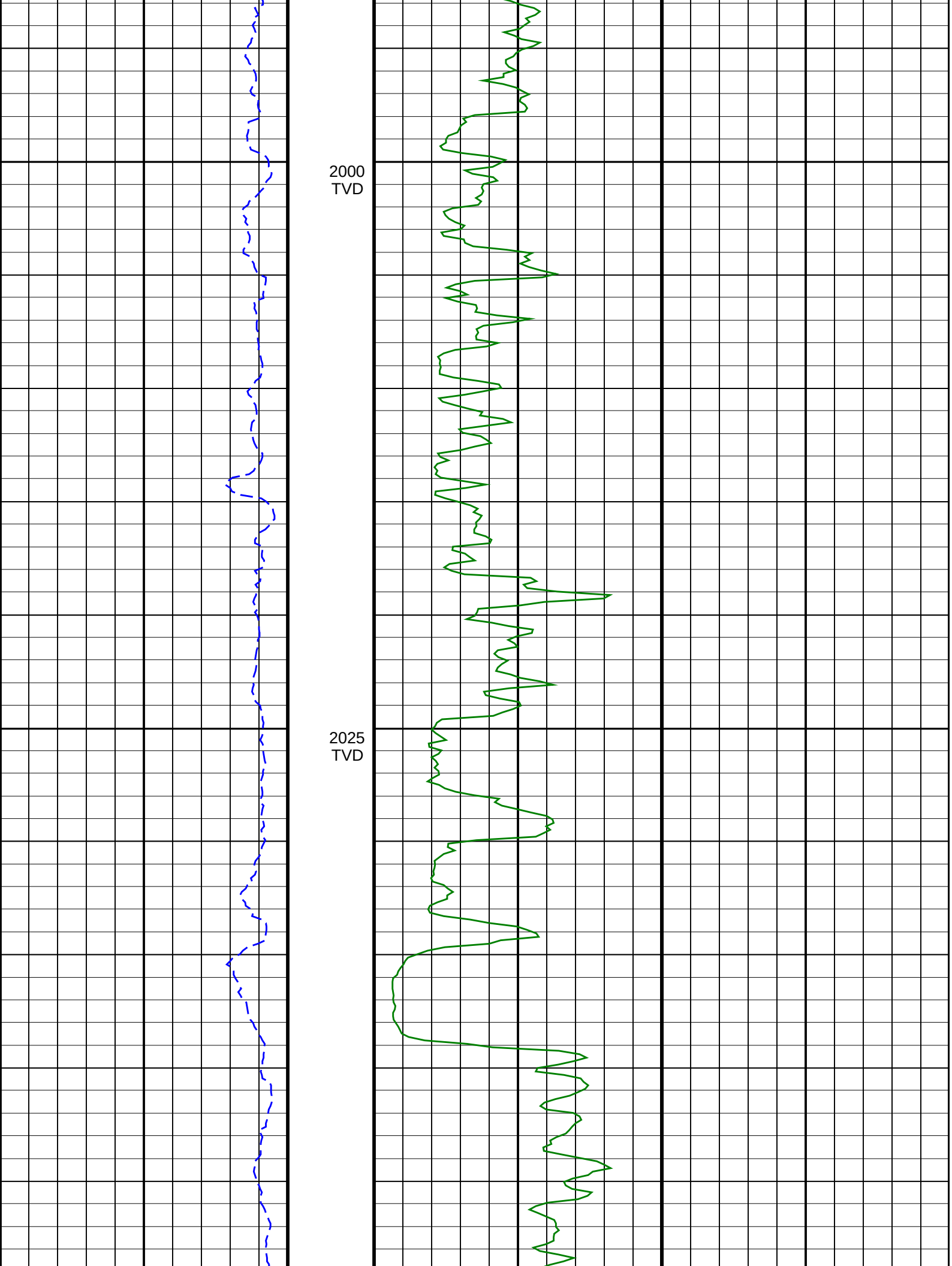
BMA A10A RT 1:200 TVD

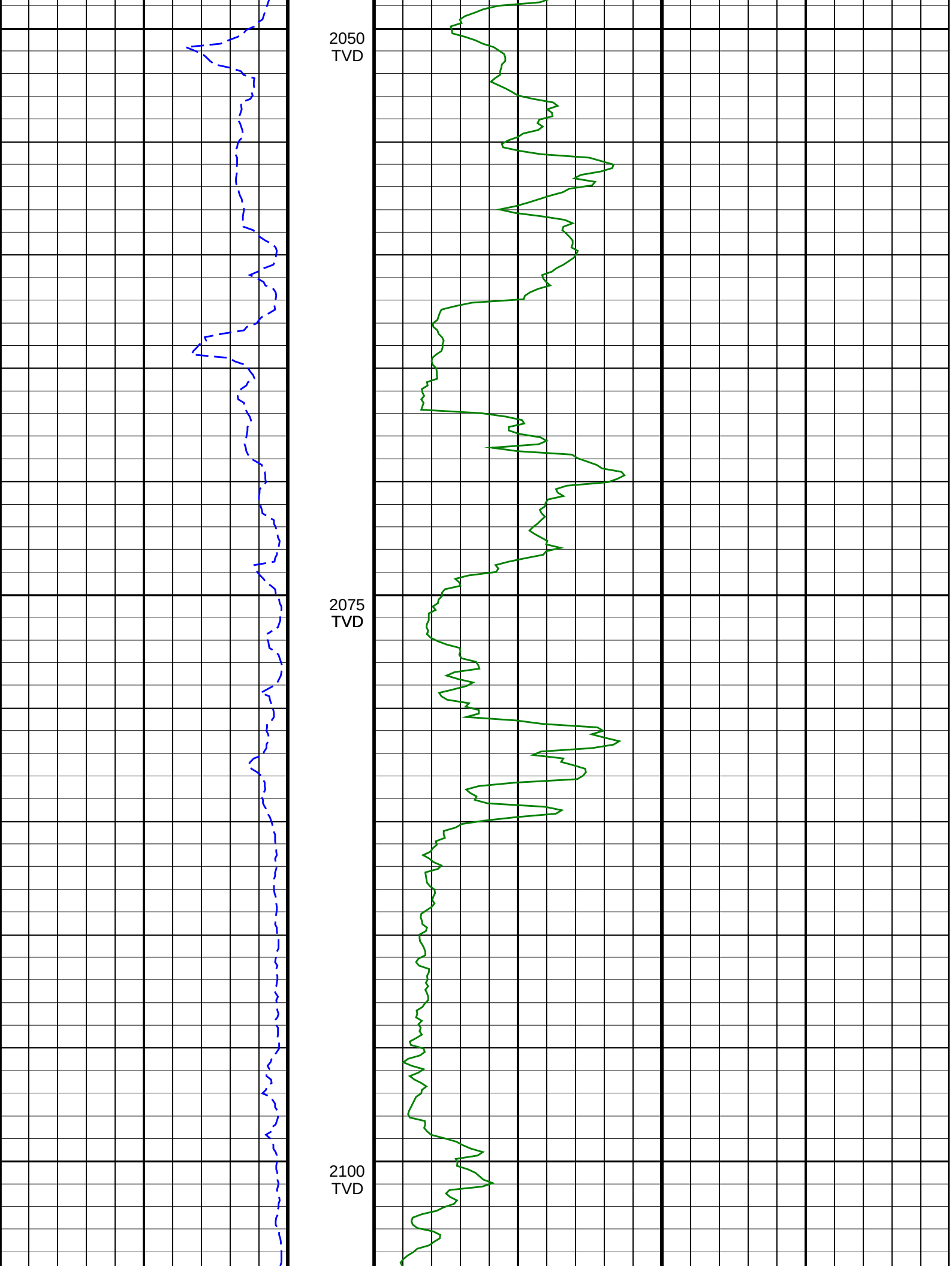
IDEAL Version: ID9_1C_02 <TVD> Vertical Scale: 1:200 Graphics File Created: 15−May−2005 02:28

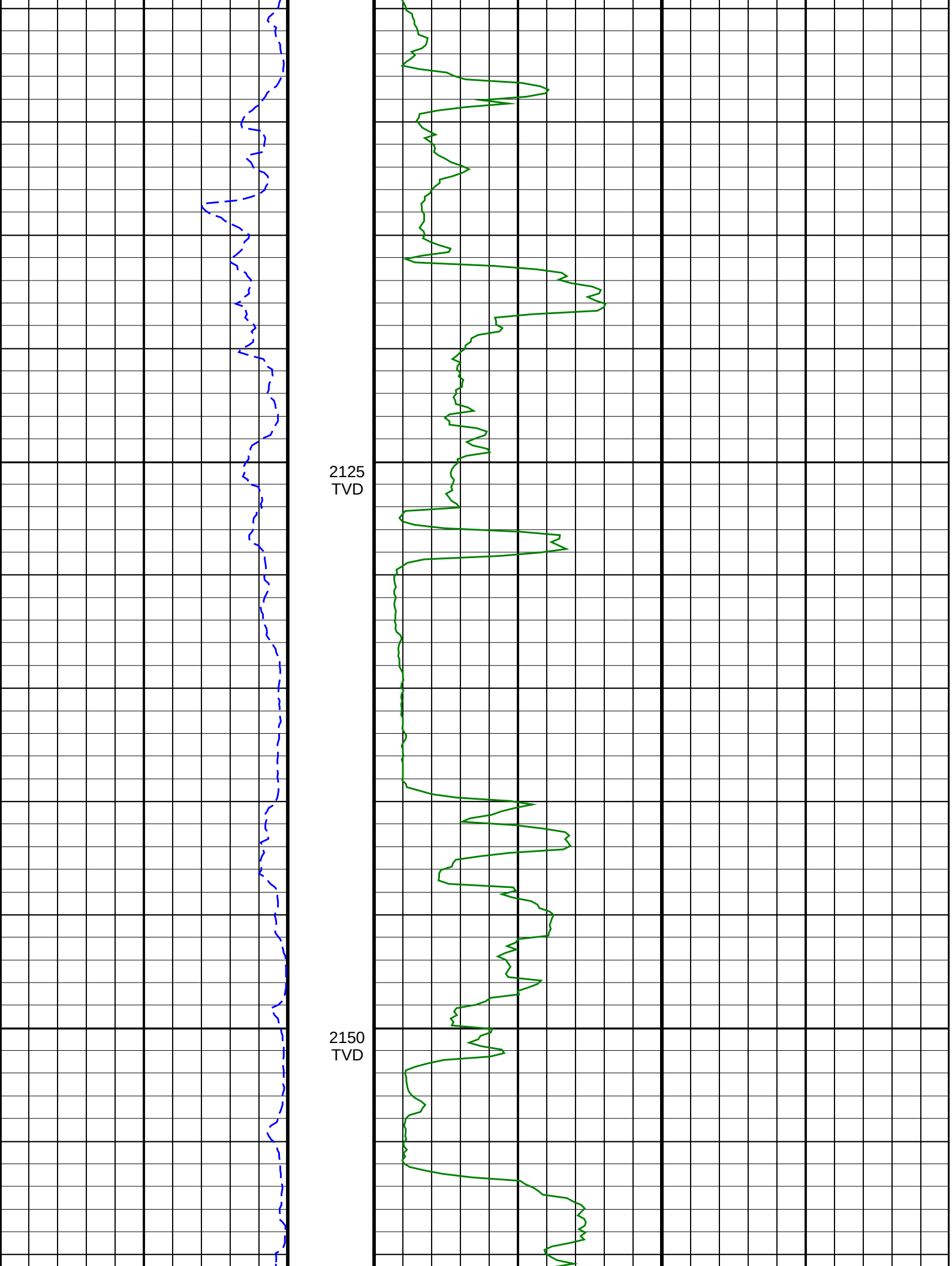


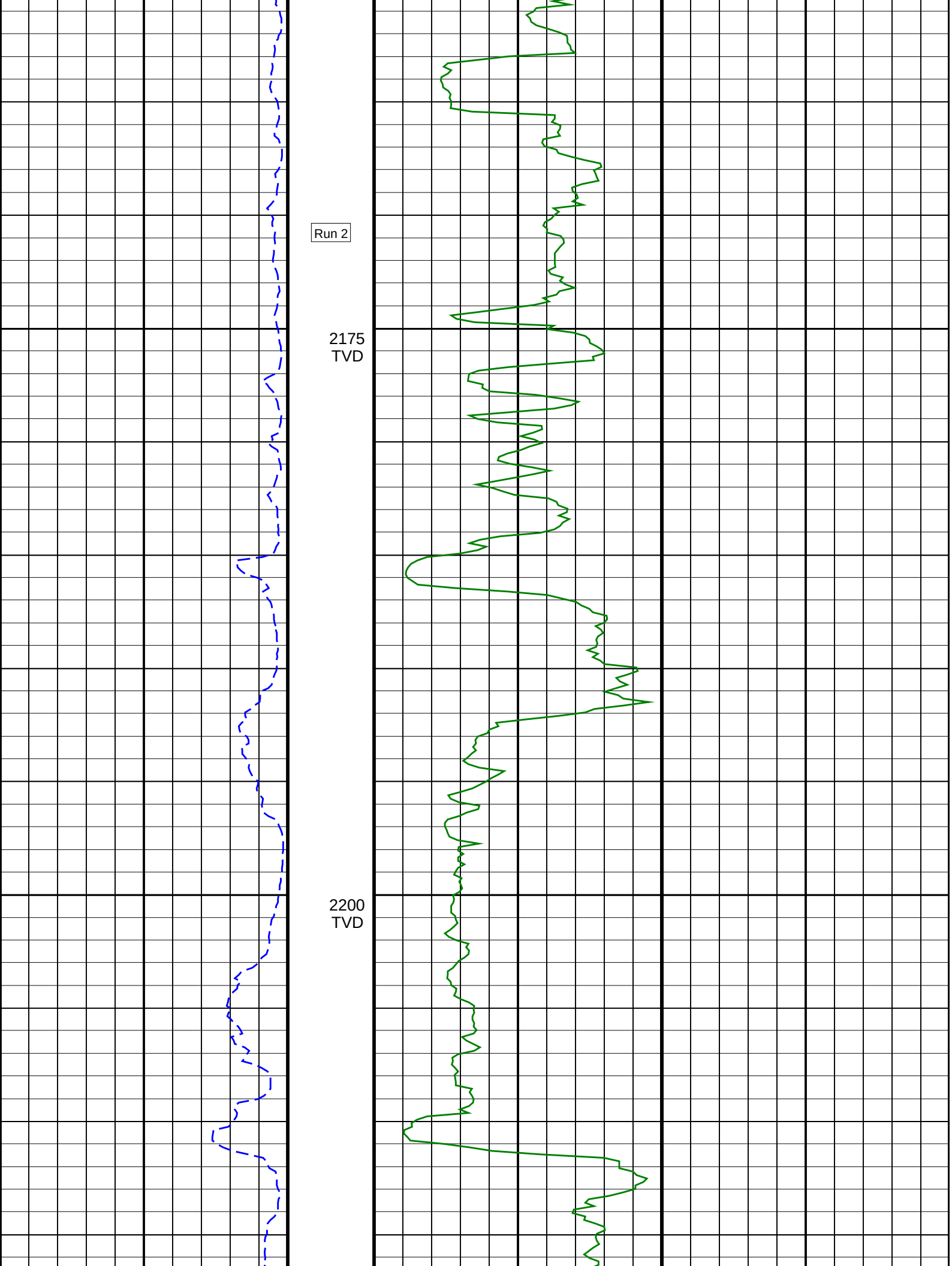

1900
TVD
1925
TVD

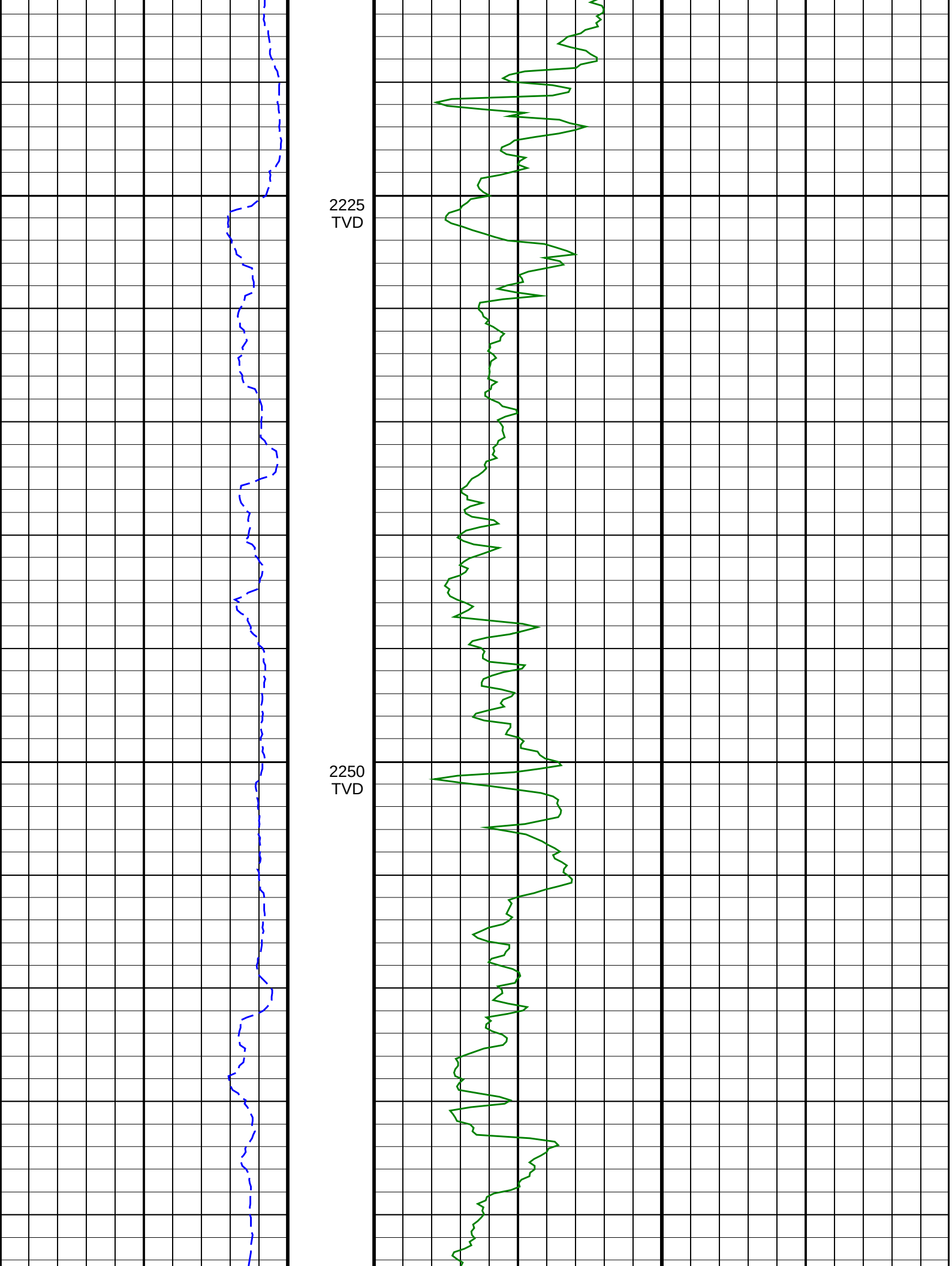

1950
TVD
1975
TVD

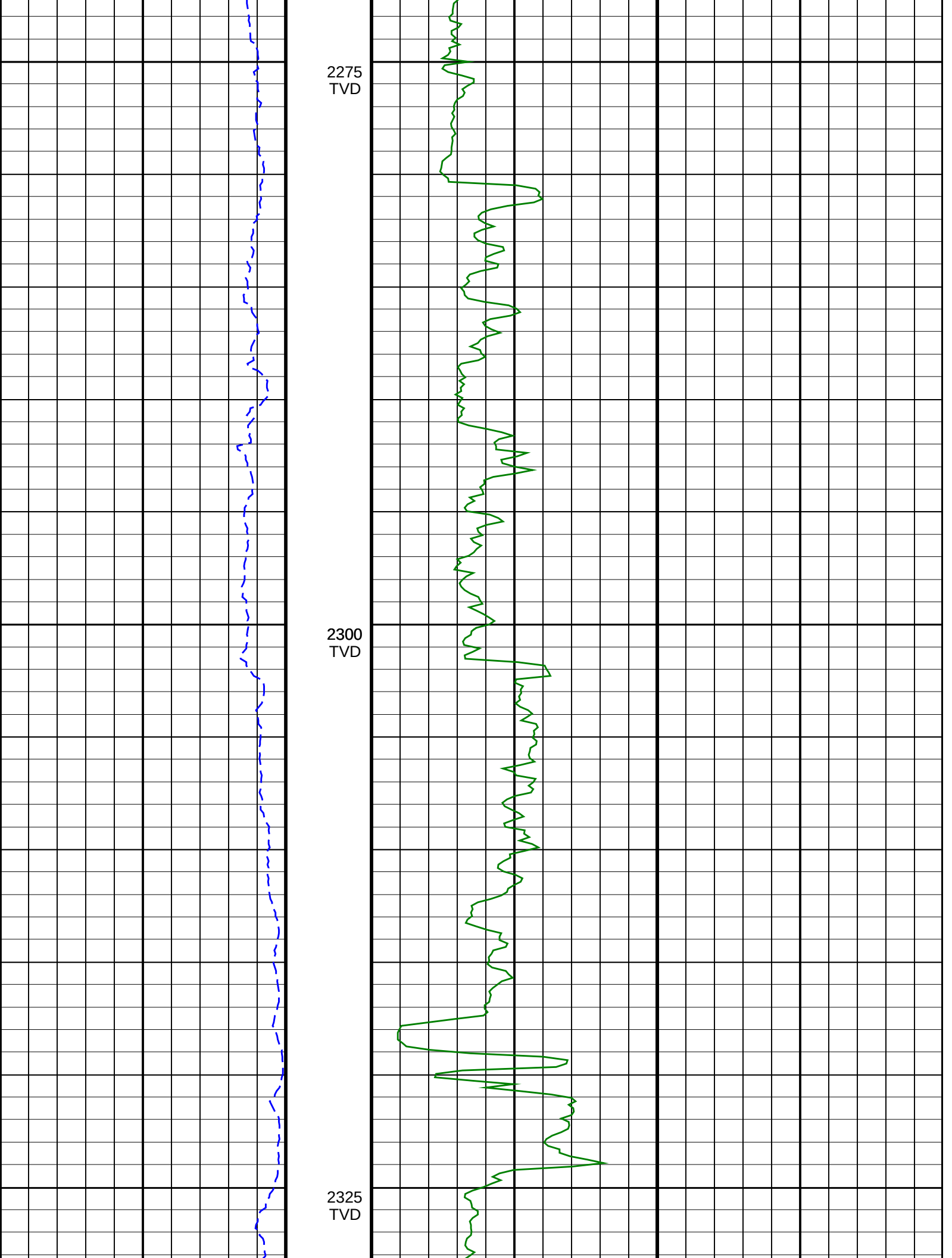

2000
TVD
2025
TVD

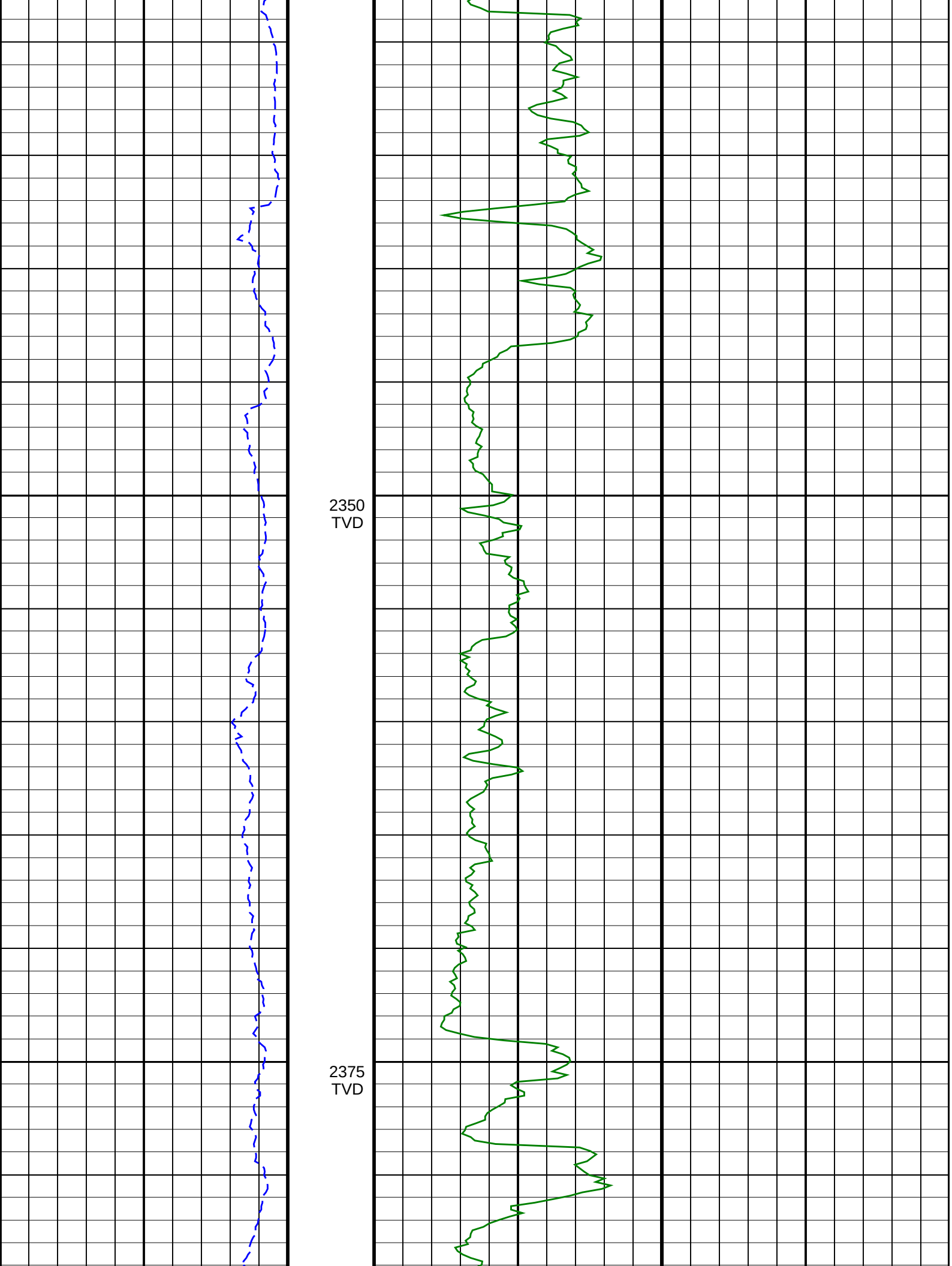

2050
TVD
2075
TVD
2100
TVD

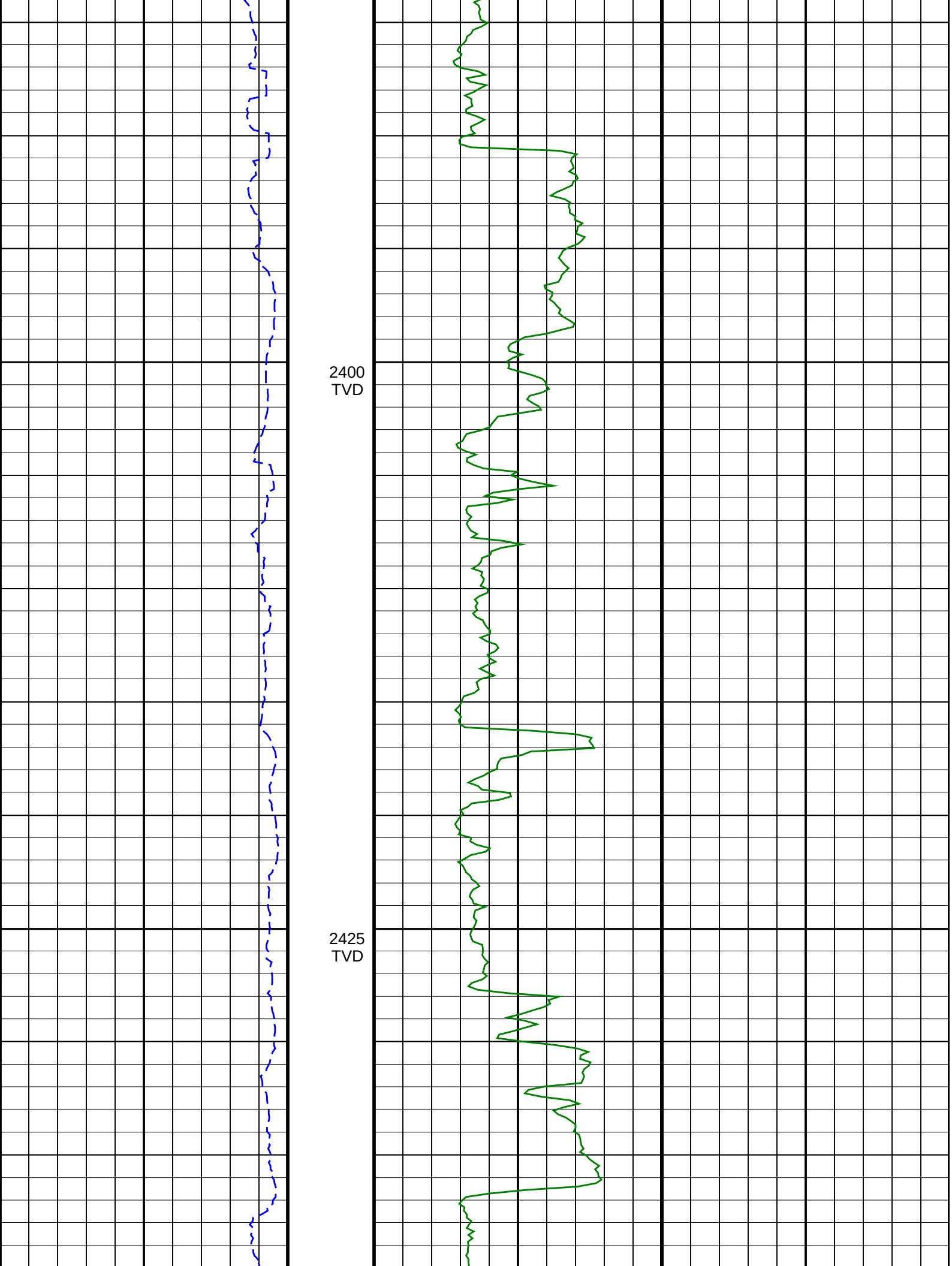

2125
TVD
2150
TVD

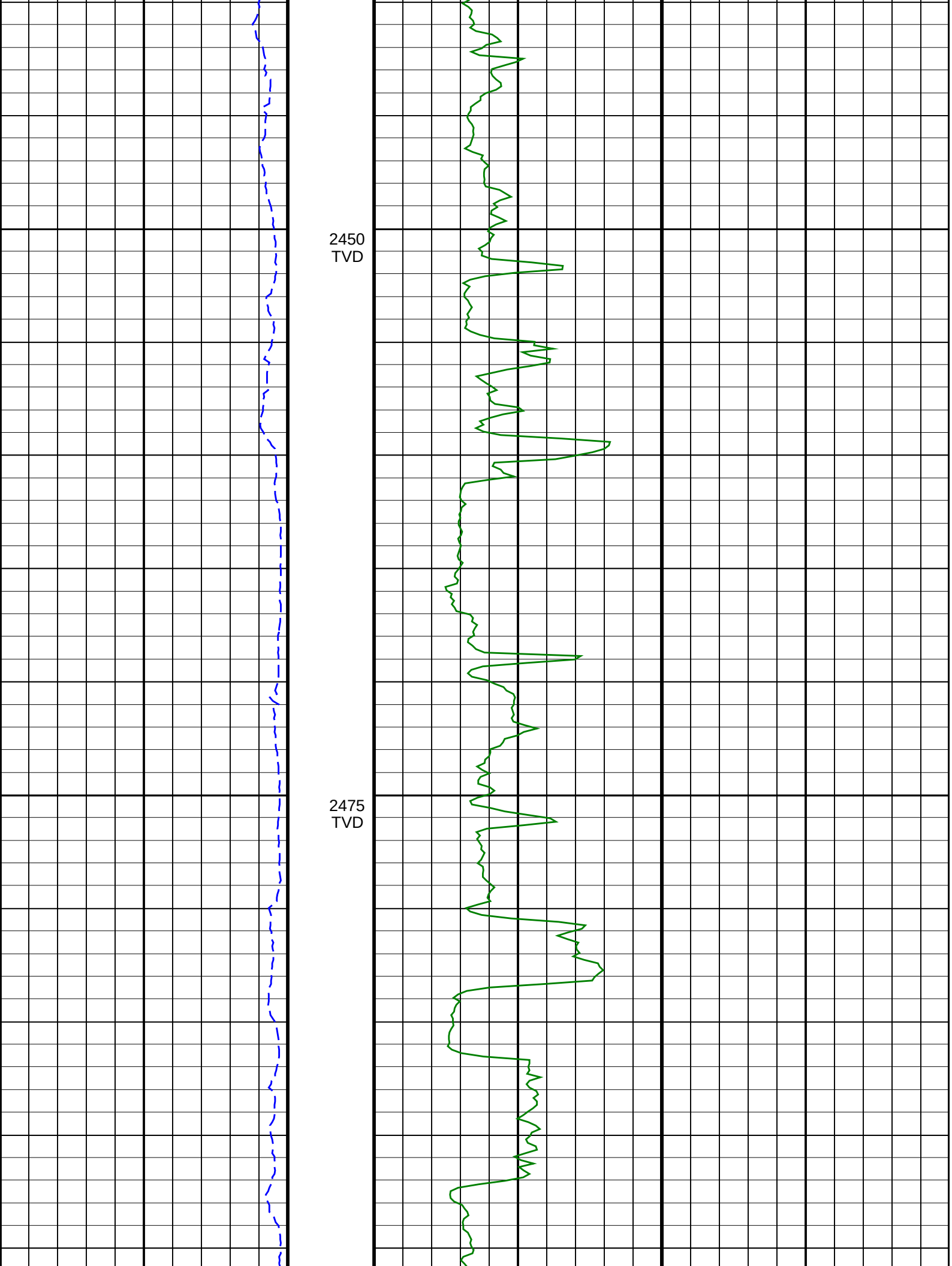

Run 2
2175
TVD
2200
TVD

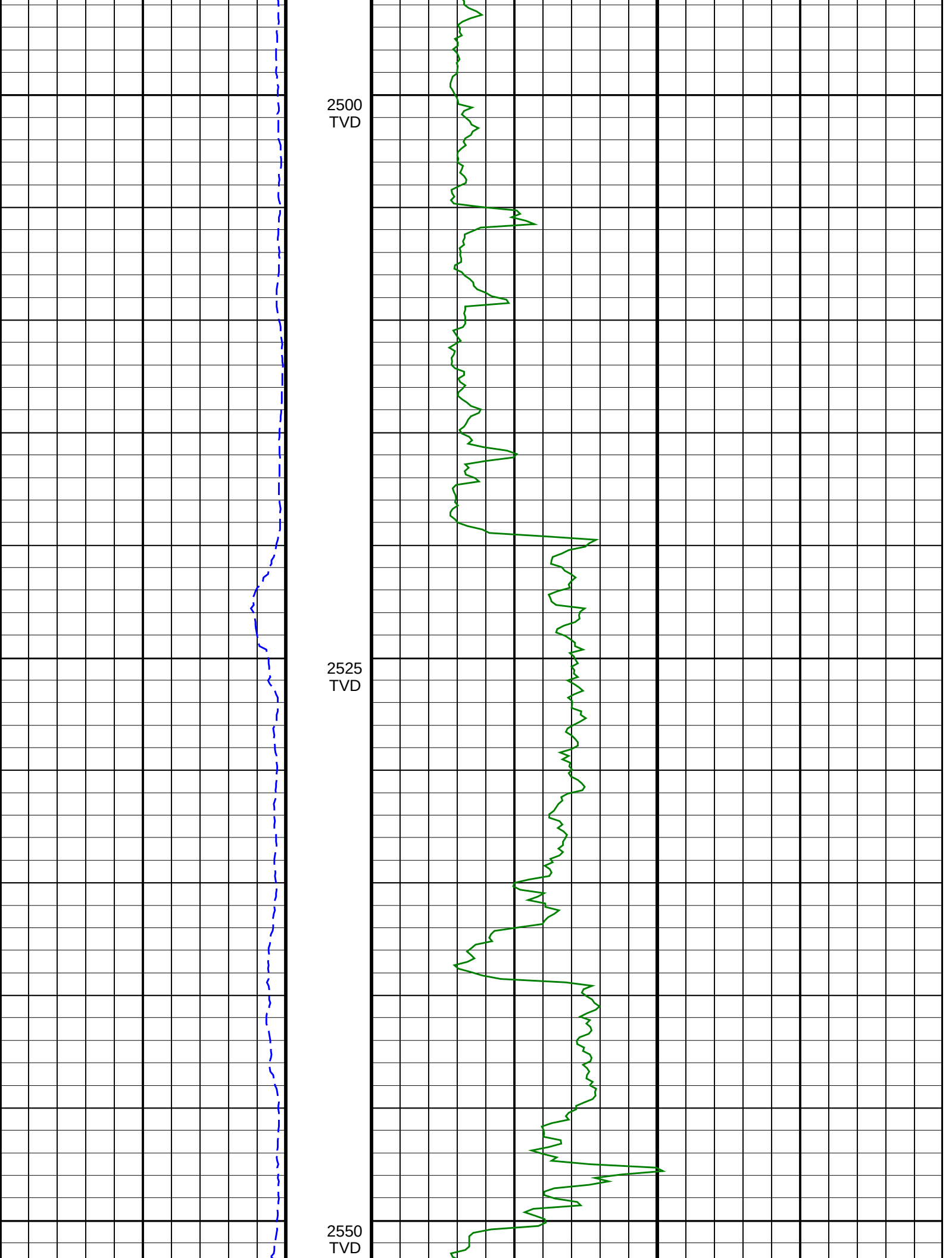

2225
TVD
2250
TVD

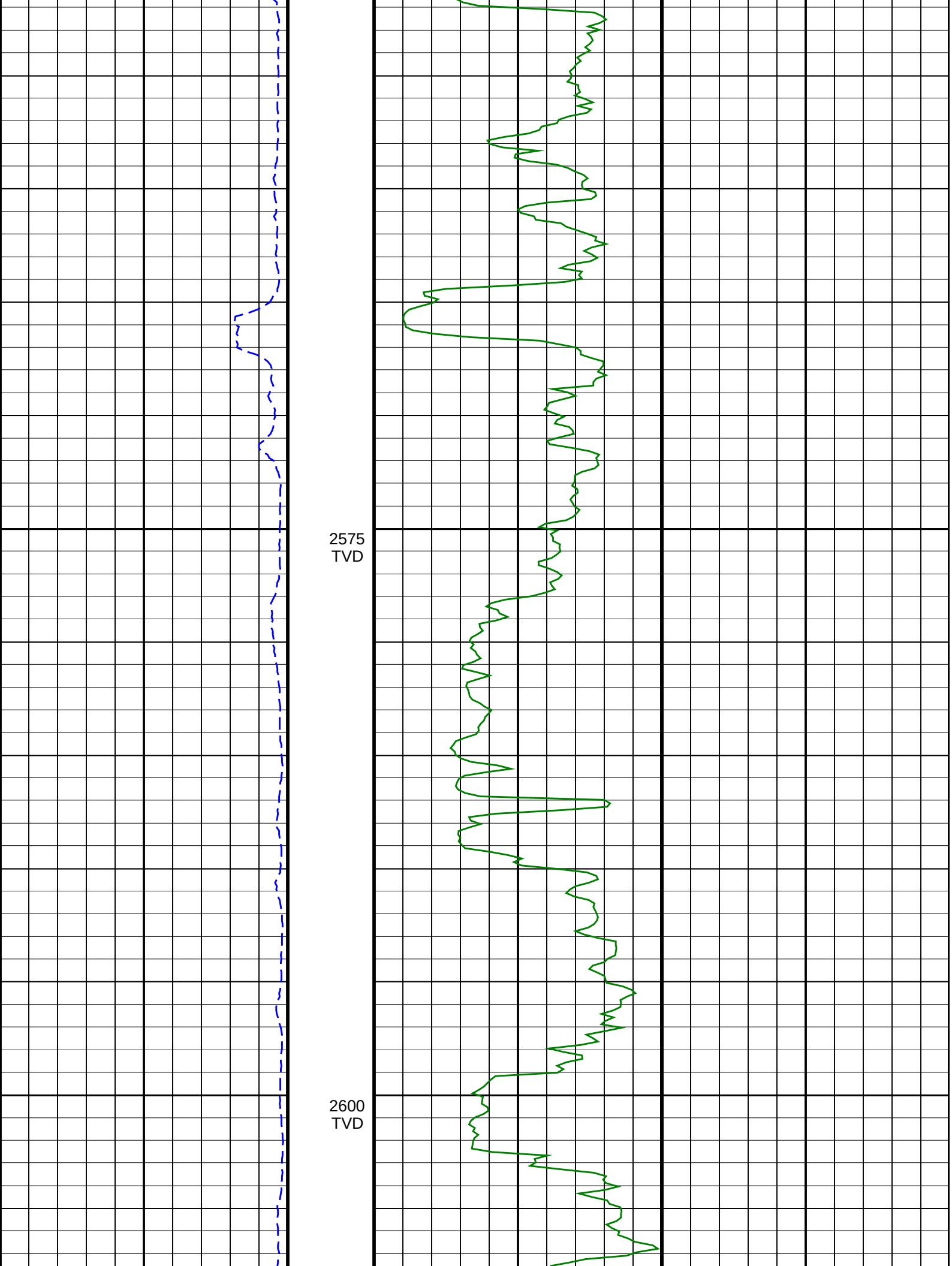

2275
TVD
2300
TVD
2325
TVD


2350
TVD
2375
TVD


2400
TVD
2425
TVD


2450
TVD
2475
TVD


2500
TVD
2525
TVD
2550
TVD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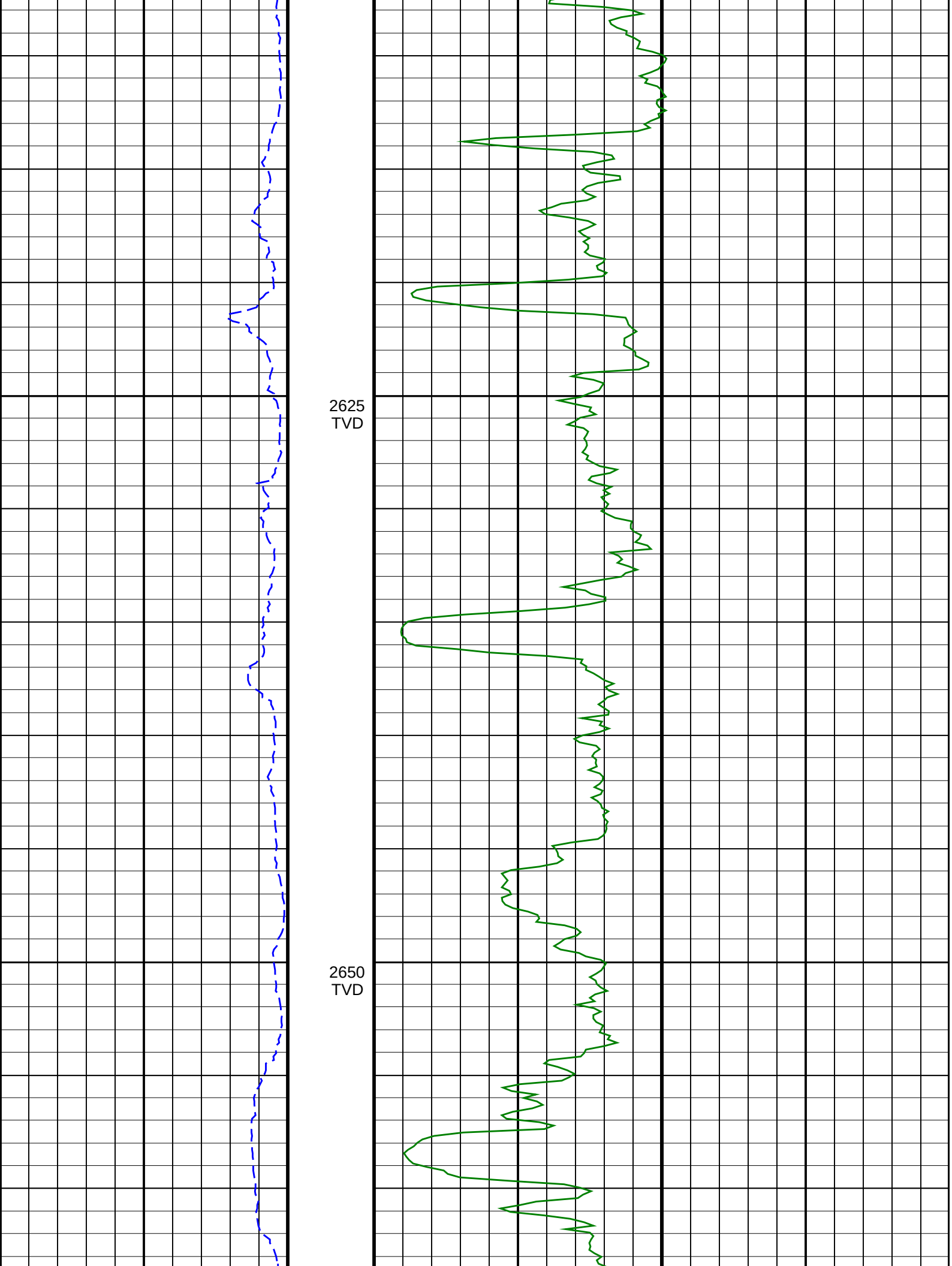
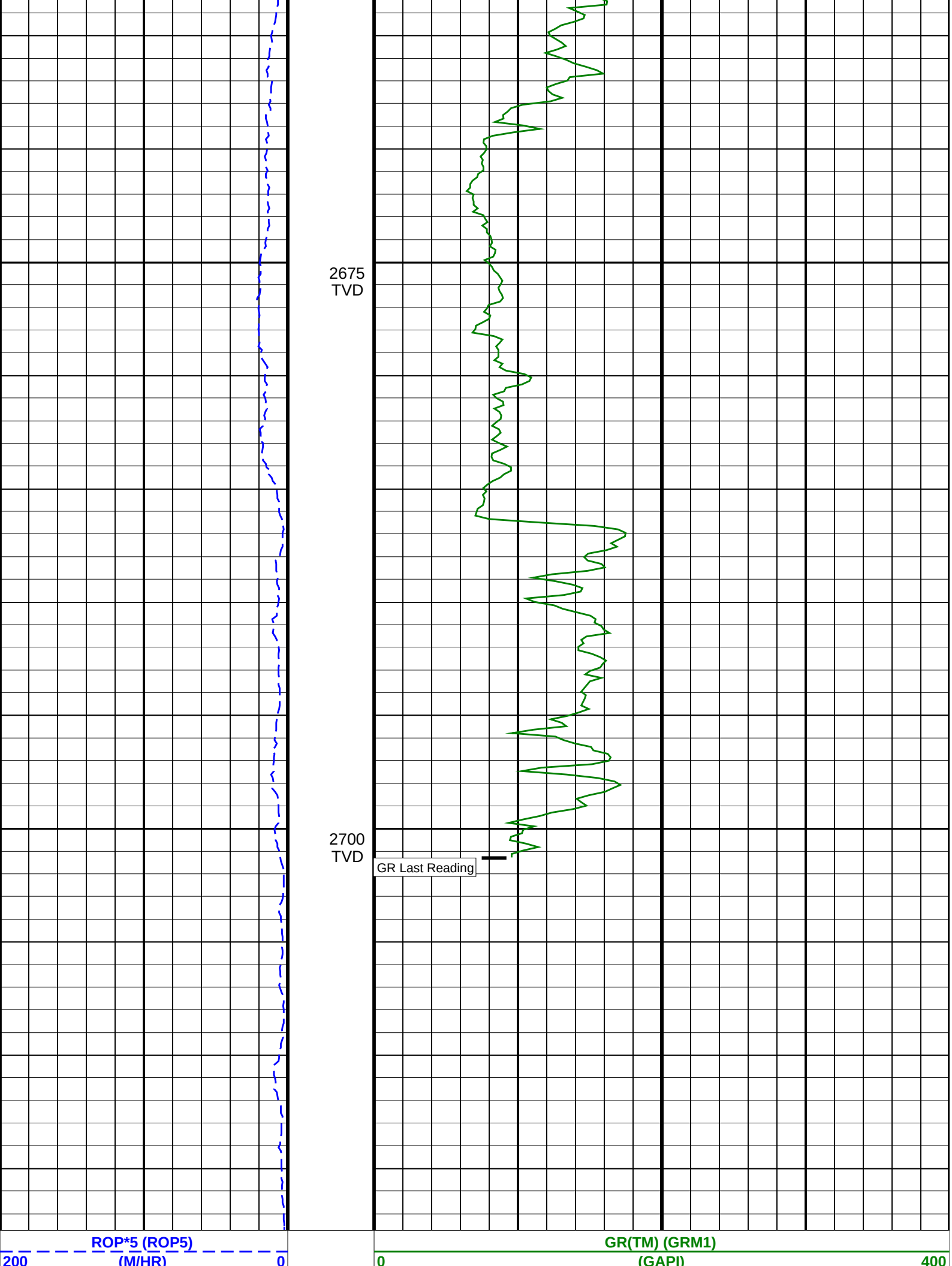
TVD
2600
TVD


2625
TVD
2650
TVD


2675
TVD
2700
TVD
GR Last Reading
ROP*5 (ROP5)
200
(M/HR)
0
GR(TM) (GRM1)
0
(GAPI)
400

SCHLUMBERGER
Survey report 13-May-2005 21:57:52 Page 1 of 3

Client.....: ESSO Australia Pty. Ltd.
Field.....: Bream A

Well.....: BMA A10A
API number.....:
Engineer.....: D. Hastie/ L. Johnston

Rig:.....: ISDL 453
STATE:.....: Victoria

Spud date.....: 3-May-05
Last survey date.....: 13-May-05
Total accepted surveys...: 40
MD of first survey.....: 2255.00 m
MD of last survey.....: 3381.00 m

----- Survey calculation methods-----
Method for positions.....: Minimum curvature
Method for DLS.....: Mason & Taylor

----- Depth reference -----
Permanent datum.....: Mean Sea Level
Depth reference.....:
GL above permanent.....: -59.40 m
KB above permanent.....: 0.00 m
DF above permanent.....: 32.82 m

----- Vertical section origin-----
Latitude (+N/S-).....: -2.12 m
Departure (+E/W-).....: -0.19 m

----- Platform reference point-----
Latitude (+N/S-).....: 5738460.340 m
Departure (+E/W-).....: 567336.310 m

Azimuth from Vsect Origin to target: 238.90 degrees

----- Geomagnetic data -----
Magnetic model.....: BGGM version 2004
Magnetic date.....: 05-May-2005
Magnetic field strength..: 1203.04 HCNT
Magnetic dec (+E/W-).....: 13.10 degrees
Magnetic dip.....: -69.03 degrees

----- MWD survey Reference Criteria ---
Reference G.....: 1000.05 mGal
Reference H.....: 1203.04 HCNT
Reference Dip.....: -69.03 degrees
Tolerance of G.....: (+/-) 2.50 mGal
Tolerance of H.....: (+/-) 6.00 HCNT
Tolerance of Dip.....: (+/-) 0.45 degrees

----- Corrections -----
Magnetic dec (+E/W-).....: 13.09 degrees
Grid convergence (+E/W-).: -0.48 degrees
Total az corr (+E/W-).....: 13.57 degrees
(Total az corr = magnetic dec - grid conv)
Survey Correction Type ...:
I=Sag Corrected Inclination
M=Schlumberger Magnetic Correction
S=Shell Magnetic Correction
F=Failed Axis Correction
R=Magnetic Resonance Tool Correction
D=Dmag Magnetic Correction

Seq # -	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/ 10m)	Srvy tool type	Tool Corr (deg)
1	2255.00	41.19	242.58	0.00	1834.08	1192.20	-556.44	-1058.12	1195.51	242.26	0.00	TIP	None
2	2315.54	47.28	232.69	60.54	1877.49	1234.29	-579.15	-1093.58	1237.47	242.09	1.52	MWD	None
3	2344.17	45.11	227.69	28.63	1897.31	1254.70	-592.36	-1109.45	1257.68	241.90	1.47	MWD	None
4	2373.96	44.29	225.55	29.79	1918.49	1275.17	-606.74	-1124.68	1277.91	241.65	0.58	MWD	None
5	2402.84	44.74	224.96	28.88	1939.08	1294.85	-621.00	-1139.06	1297.34	241.40	0.21	MWD	None
6	2431.51	45.68	223.46	28.67	1959.28	1314.53	-635.58	-1153.25	1316.79	241.14	0.50	MWD	None
7	2460.31	45.65	223.26	28.80	1979.41	1334.37	-650.56	-1167.39	1336.42	240.87	0.05	MWD	None
8	2489.08	45.94	223.42	28.77	1999.46	1354.24	-665.56	-1181.54	1356.10	240.61	0.11	MWD	None
9	2517.86	45.95	223.72	28.78	2019.48	1374.19	-680.54	-1195.80	1375.89	240.36	0.07	MWD	None
10	2546.51	45.96	223.53	28.65	2039.40	1394.06	-695.45	-1210.01	1395.63	240.11	0.05	MWD	None
11	2575.02	45.67	223.20	28.51	2059.27	1413.75	-710.31	-1224.05	1415.22	239.87	0.13	MWD	None
12	2603.47	45.59	222.65	28.45	2079.16	1433.31	-725.21	-1237.90	1434.68	239.64	0.14	MWD	None
13	2631.63	45.76	223.11	28.16	2098.84	1452.67	-739.97	-1251.60	1453.98	239.41	0.13	MWD	None
14	2660.31	46.03	222.98	28.68	2118.80	1472.48	-755.02	-1265.66	1473.75	239.18	0.10	MWD	None
15	2688.70	44.89	225.62	28.39	2138.71	1492.06	-769.50	-1279.79	1493.32	238.98	0.77	MWD	None
16	2717.26	43.06	227.01	28.56	2159.26	1511.41	-783.20	-1294.12	1512.67	238.82	0.72	MWD	None
17	2746.89	41.86	228.13	29.63	2181.12	1531.02	-796.70	-1308.89	1532.29	238.67	0.48	MWD	None
18	2775.31	37.64	230.27	28.42	2202.97	1548.92	-808.58	-1322.63	1550.21	238.56	1.56	MWD	None
19	2804.11	36.17	231.41	28.80	2226.00	1566.04	-819.50	-1336.04	1567.34	238.48	0.56	MWD	None
20	2832.83	35.90	232.07	28.72	2249.22	1582.81	-829.96	-1349.30	1584.12	238.40	0.16	MWD	None
21	2861.57	35.65	232.20	28.74	2272.54	1599.49	-840.28	-1362.57	1600.83	238.34	0.09	MWD	None
22	2890.25	35.62	232.73	28.68	2295.85	1616.10	-850.46	-1375.82	1617.45	238.28	0.11	MWD	None
23	2918.77	35.26	233.67	28.52	2319.09	1632.55	-860.36	-1389.06	1633.92	238.23	0.23	MWD	None
24	2947.63	34.56	234.27	28.86	2342.75	1649.01	-870.08	-1402.41	1650.39	238.18	0.27	MWD	None
25	2976.02	34.36	234.66	28.39	2366.16	1665.02	-879.41	-1415.48	1666.42	238.15	0.10	MWD	None
26	3004.83	33.91	235.26	28.81	2390.01	1681.15	-888.70	-1428.72	1682.56	238.12	0.20	MWD	None
27	3033.62	33.44	235.77	28.79	2413.97	1697.09	-897.73	-1441.88	1698.51	238.09	0.19	MWD	None
28	3062.05	32.73	236.30	28.43	2437.79	1712.59	-906.41	-1454.75	1714.02	238.07	0.27	MWD	None
29	3091.19	32.34	236.58	29.14	2462.35	1728.24	-915.07	-1467.81	1729.69	238.06	0.14	MWD	None
30	3119.52	31.89	237.18	28.33	2486.35	1743.29	-923.30	-1480.42	1744.74	238.05	0.19	MWD	None

Seq # -	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/ 10m)	Srvy tool type	Tool Corr (deg)
31	3148.77	31.44	237.63	29.25	2511.25	1758.64	-931.57	-1493.36	1760.10	238.04	0.17	MWD	None
32	3176.53	30.52	237.95	27.76	2535.05	1772.93	-939.19	-1505.45	1774.39	238.04	0.34	MWD	None
33	3205.10	29.46	238.40	28.57	2559.79	1787.21	-946.72	-1517.58	1788.67	238.04	0.38	MWD	None
34	3233.55	28.71	239.31	28.45	2584.65	1801.04	-953.87	-1529.42	1802.49	238.05	0.31	MWD	None

35	3262.80	27.93	239.80	29.25	2610.40	1814.91	-960.90	-1541.38	1816.37	238.06	0.28	MWD None
36	3291.27	25.92	239.94	28.47	2635.78	1827.80	-967.38	-1552.53	1829.25	238.07	0.71	MWD None
37	3319.70	24.20	240.25	28.43	2661.54	1839.84	-973.38	-1562.97	1841.28	238.09	0.61	MWD None
38	3348.52	23.60	240.25	28.83	2687.89	1851.52	-979.18	-1573.11	1852.96	238.10	0.21	MWD None
39	3360.89	23.30	239.72	12.36	2699.23	1856.44	-981.64	-1577.37	1857.87	238.10	0.30	MWD None
40	3381.00	22.81	238.94	20.11	2717.74	1864.31	-985.65	-1584.14	1865.75	238.11	0.29	Projection to TD

Company: **ESSO Australia Pty. Ltd.**

Schlumberger

Well: **BMA A10A**

Field: **Bream A**

Rig: **ISDL 453**

State: **Victoria**

Gamma Ray Service
1:200 True Vertical Depth
Real Time Log